CORPORATE PRESENTATION · NOVEMBER 2026

Attovia™

NASDAQ: ATTO

Shaping the future treatment of immune-mediated diseases

Forward-looking statements

This presentation contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements reflect the current beliefs and expectations of management. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including, without limitation, statements concerning the company's future plans and prospects; estimates of the addressable patient population for the company's product candidates; the company's ability to use its ATTOBODY™ platform to identify new therapeutic targets and advance such targets into clinical development; the company's ability to establish and maintain collaborations; any expectations regarding the safety or efficacy of ATTO-1310, ATTO-2306, and ATTO-1091, and other candidates under development; the ability of such candidates to treat their indications; the planned timing of the company's clinical trials, data results and further development of its product candidates; the sufficiency of the company's current cash, cash equivalents and marketable securities to fund its operations; and the company's expected cash runway. In addition, when or if used in this presentation, the words "may," "could," "should," "anticipate," "believe," "estimate," "expect," "intend," "plan," "will," "predict" and similar expressions and their variants, as they relate to the company, may identify forward-looking statements. These forward-looking statements are contained throughout this presentation. Forward-looking statements are neither historical facts nor assurances of future performance. Although the company believes the expectations reflected in such forward-looking statements are reasonable, the company can give no assurance that such expectations will prove to be correct. Readers are cautioned that actual results, levels of activity, safety, performance or events and circumstances could differ materially from those expressed or implied in the company's forward-looking statements due to a variety of factors, including risks and uncertainties related to the company's ability to advance its product candidates and obtain regulatory approval of and ultimately commercialize such product candidates, the timing and results of preclinical studies and clinical trials, the risks that topline or interim results from clinical trials, including results based on a limited number of patients, may not be predictive of final results or of results of later clinical trials, the company's ability to fund development activities and achieve development goals, its ability to protect its intellectual property, general business and economic conditions, and risks related to the impact on its business of macroeconomic and geopolitical conditions, including inflation, volatile interest rates, tariffs, instability in the global banking sector, public health crises, and geopolitical conflicts. Further information on potential risk factors that could affect the company's business and its financial results are detailed under the heading "Risk Factors" included in the documents the company files from time to time with the U.S. Securities and Exchange Commission. Accordingly, readers are cautioned not to place undue reliance on these forward-looking statements. These forward-looking statements speak only as of the date of this presentation, and the company undertakes no obligation to revise or update any forward-looking statements to reflect events or circumstances after the date hereof.

This presentation contains information that could be considered to be cross-trial comparisons, which are inherently unreliable, as they are not based on data resulting from a head-to-head trial and are not direct comparisons. Different protocol designs, trial designs, patient selection and populations, number of patients, baseline characteristics, trial endpoints, trial objectives and other parameters that are not the same between the relevant trials may lead to bias in the results.

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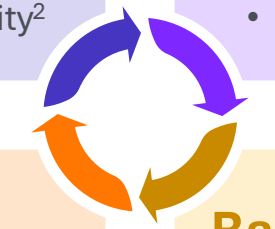
Shaping the future of I&I with potential best-in-class ATTOBODY™-based medicines

ATTO-1310, next-generation precision itch therapy

- Anti-IL-31 ATTOBODY™ with potential for faster and deeper itch relief with Q3M dosing[1]
- $11B+ projected base U.S. peak sales opportunity[2]

Pipeline enabled by validated ATTOBODY™ platform

- *De novo* precision-designed multispecifics: ATTO-2306 (AD) and ATTO-1091 (IBD)
- Early programs provide development & BD optionality



Multiple near-term value drivers

- ATTO-1310 Ph2s in CPUO and high-itch AD initiating in 1H 2027
- ATTO-2306 and ATTO-1091 Phase 1 data in 2027

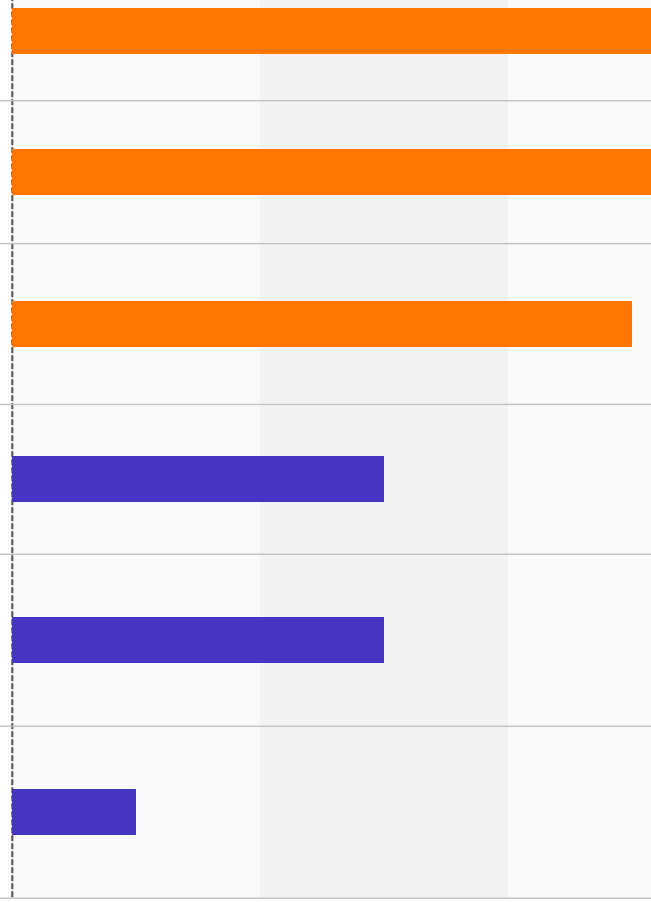
Rapid execution and long cash runway

- $395.9m cash and investments as of Sep 30, 2026, expected to fund operations into 2030[3]
- Discovery to clinical POC in under three years

1. Cross-trial comparisons are inherently unreliable, as they are not based on data resulting from a head-to-head trial and are not direct comparisons. Different protocol designs, trial designs, patient selection and populations, number of patients, baseline characteristics, trial endpoints, trial objectives and other parameters that are not the same between the relevant trials may lead to bias in the results.
2. Based on reports the Company commissioned from LifeSci Consulting, an affiliate of LifeSci Capital LLC. The projections for ATTO-1310 peak sales are not indicative of the full potential market opportunity for ATTO-1310 and are subject to a number of assumptions, risks and uncertainties that could cause them to be smaller than currently estimated. We believe there is a significant global need for pruritus-specific medicines that can be deployed across dermatology, hepatology, nephrology and other areas of medicine.
3. Cash and investments refer to cash, cash equivalents, and marketable securities (unaudited).

Pipeline offers multiple novel assets with cross-indication opportunities

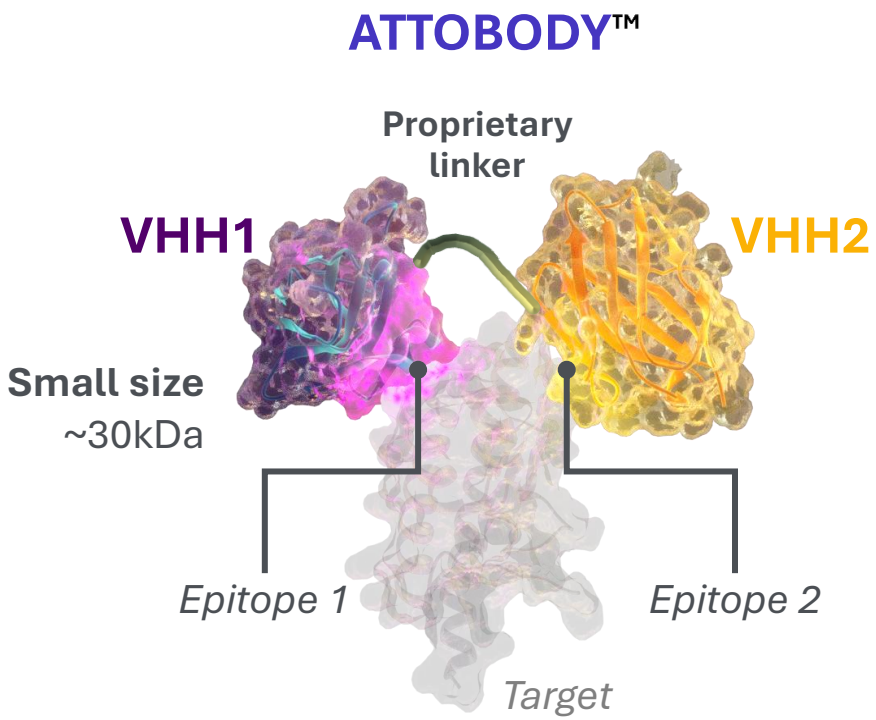
Program *Target*	Indication(s)	Discovery	IND-enabling	Phase 1	Phase 2	Phase 3	Anticipated Milestones
ATTO-1310 *IL-31*	**Chronic Pruritus of Unknown Origin (CPUO)**						Ph2 ATTUNE-CPUO initiation in 1H 2027
	High-itch AD						Ph2 ATTUNE-AD initiation in 1H 2027
	Cholestatic Pruritus						Phase 1b data in 2H 2027
ATTO-2306 *IL-31 x IL-13*	**Inflammatory Skin Disease** *AD, CSU, PN*						Ph1 initiation in 1H 2027
ATTO-1091 *TL1A x IL-23p19 x Integrin α4β7*	**Inflammatory Bowel disease** *UC, CD*						Ph1 initiation in 1H 2027
ATTO-006 *Conditional T_{RM} Survival Blocker Bispecific*	**Inflammatory Diseases**						DC nomination by YE 2026



Attovia™

Additional discovery programs: ATTO-007, ATTO-008

Our ATTOBODY biparatopic biologics platform enables the creation of complex biologics



High-potency Monospecifics	ATTO-1310
Modular Multispecifics	ATTO-2306, ATTO-1091
Conditional Bispecifics	ATTO-006
Difficult-to-drug Targets & Other Concepts	Anti-multi-transmembrane biologic

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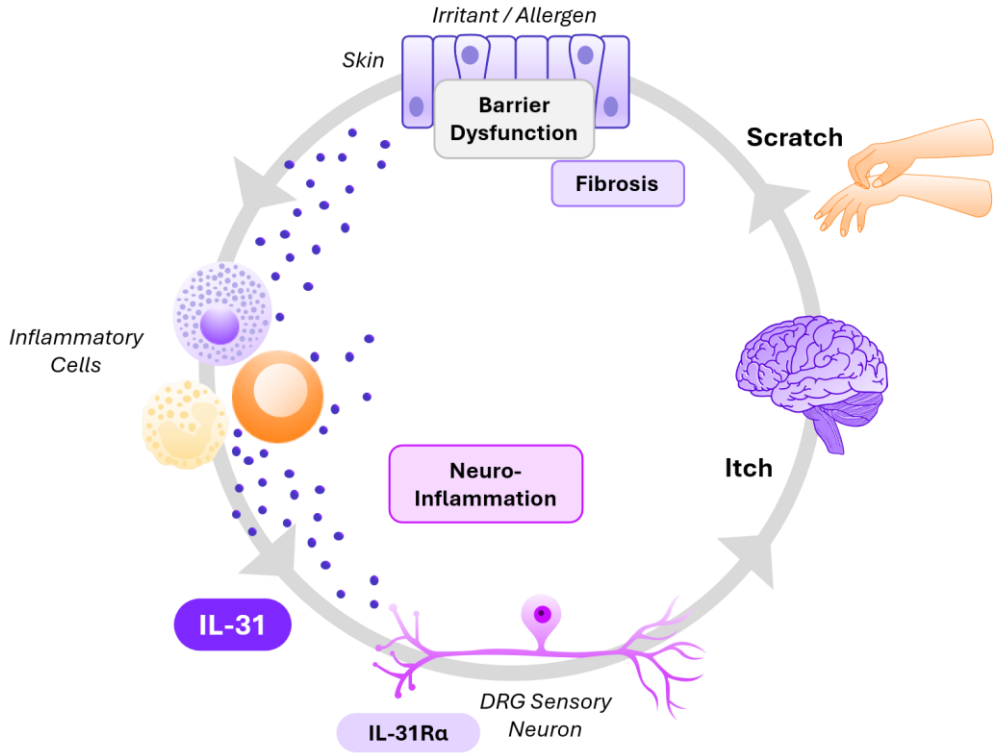
Biparatopic ATTOBODY Unit Fc Fragment IgG

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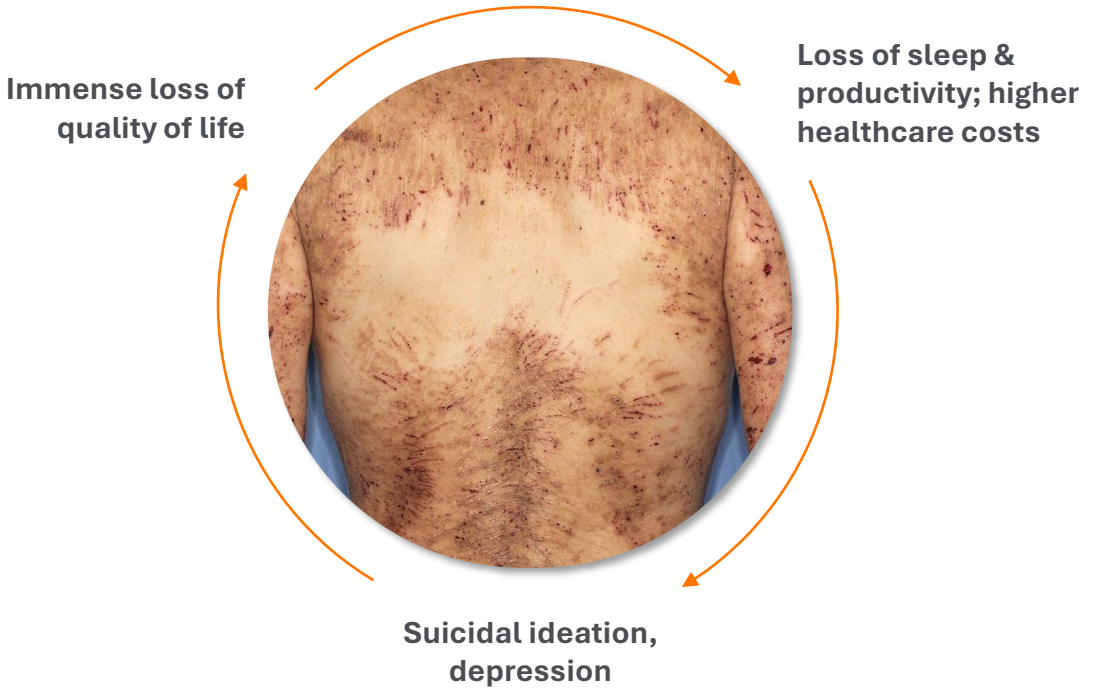
ATTO-1310: Differentiated antipruritic and initial clinical support for the ATTOBODY platform

IL-31 is the “itch cytokine” and is elevated in a host of pruritic diseases

THE BIOLOGY



THE PATIENT BURDEN



Nemolizumab’s (anti-IL-31Rα) commercial launch success (projected **$4B+ peak sales**[1]) validated the role of the IL-31 pathway in reducing itch and the unmet need in pruritic disease

1. Competitor materials; guidance for FY2028+

Among pruritic diseases, CPUO and high-itch AD are large, underserved populations with substantial unmet patient need

	CPUO	High-itch AD
Definition	Chronic itch lasting 6+ weeks with no identifiable cause[1]	AD with PP-NRS 7+
U.S. Prevalence[2]	~3.9M	~5.1M
FDA-approved Treatment	None approved	No specific on-label treatments[3]
Current Treatment	Off-label systemic agents	TCS, branded non-steroidals, biologics (largely off-label)
Therapeutic Unmet Need[2]	Off-label systemic agents have limited efficacy and may cause adverse effects	Pruritus reported in ~72% of EASI-clear patients; dosing frequency burden

These two indications are part of a much larger U.S. pruritus population, projected to exceed 15M patients

TCS: Topical corticosteroids

1. A CPUO diagnosis of exclusion requiring the absence of primary dermatologic disease, systemic causes, neuropathic itch syndromes, psychiatric/psychogenic pruritus, and drug-induced pruritus following appropriate clinical and laboratory evaluation
2. Based on reports the Company commissioned from LifeSci Consulting, an affiliate of LifeSci Capital LLC; projected 2035 prevalence
3. No biologics are approved specifically for high-itch AD (PP-NRS 7+); current biologics are approved for moderate-to-severe AD (EASI ≥16)

Attovia™

ATTO-1310 is a novel IL-31 antagonist with the potential to improve pruritic disease patient care

ATTO-1310 TARGET PRODUCT PROFILE

Rapid itch relief via ligand targeting (Cytopoint validation)

Deeper itch reduction through higher potency and exposure

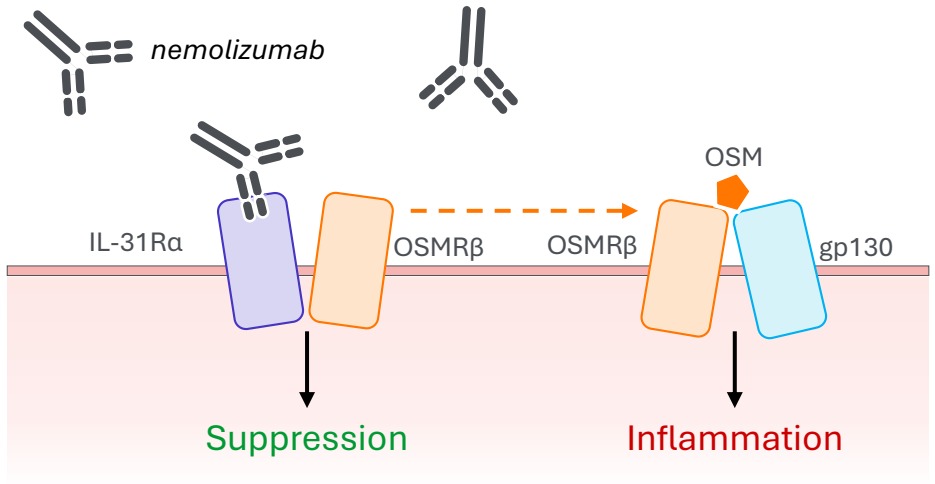
Avoid reverse dose-efficacy relationship with targeting IL-31Rα which can limit dosing and efficacy, as seen in three nemolizumab Phase 2 studies

Favorable tolerability

Extended SC dosing up to Q3M

Our topline 12-week Phase 1b data support the potential for ATTO-1310 to achieve all key elements of the TPP

IL-31Rα blockade may direct OSMR to drive proinflammatory signaling in complex with gp130



Source: J Allergy Clin Immunol. 2024 Jun;153(6):1548-1549

ATTO-1310 Phase 1 study design

Phase 1a:
Healthy Volunteer SAD / MAD

Part 1 (n=40):

SAD HV

Randomized 3:1, doses: 0.5-9 mg/kg IV or SC[1]

Part 2 (n=16):

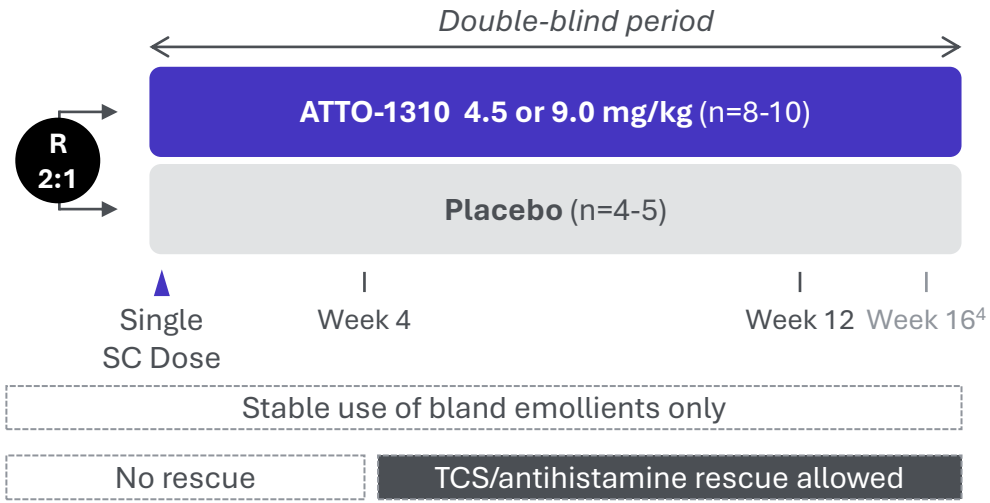
MAD HV

Randomized 3:1, doses 1.5 and 4.5 mg/kg SC

Phase 1b:
Patient Cohorts[2]

Part 3 (n=26): **High-itch AD Patients** (PP-NRS ≥7, EASI ≥7)

Part 4 (n=26): **CP Patients** (PP-NRS ≥7)[3]



Primary and secondary endpoints:

- Safety
- PK
- Immunogenicity

Exploratory endpoints:

Clinical activity

- PP-NRS, SD-NRS
- EASI, SCORAD, vIGA (High-itch AD patients only)
- PROMIS measures
- Rescue medications

PD biomarkers

- Total and free IL-31

✓ **Interim analysis:** Focus on Week 4, given a single SC dose and restriction on rescue meds

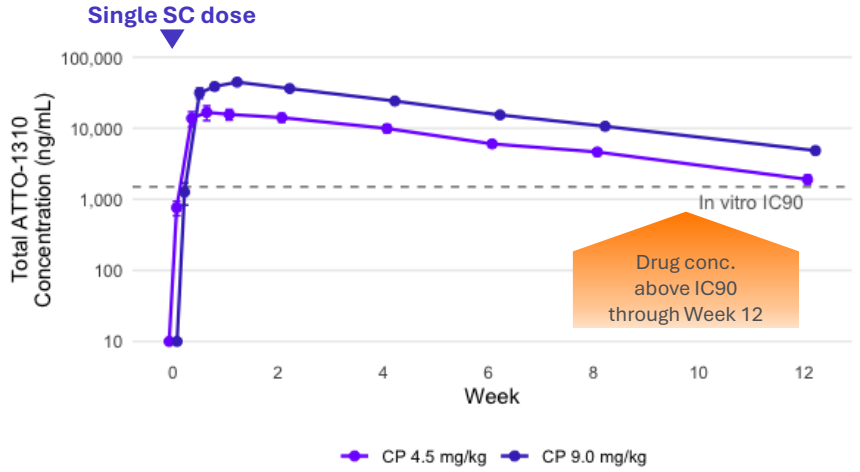
✓ **Topline results:** Focus on Week 12, the last visit with complete data

1. Doses tested were 0.5, 1.5, 4.5, 9 mg/kg IV and 1.5 mg/kg SC
2. Same design for each patient cohort
3. All chronic pruritus patients enrolled in the trial had a diagnosis consistent with chronic pruritus of unknown origin (CPUO)
4. Week 16 visit was optional

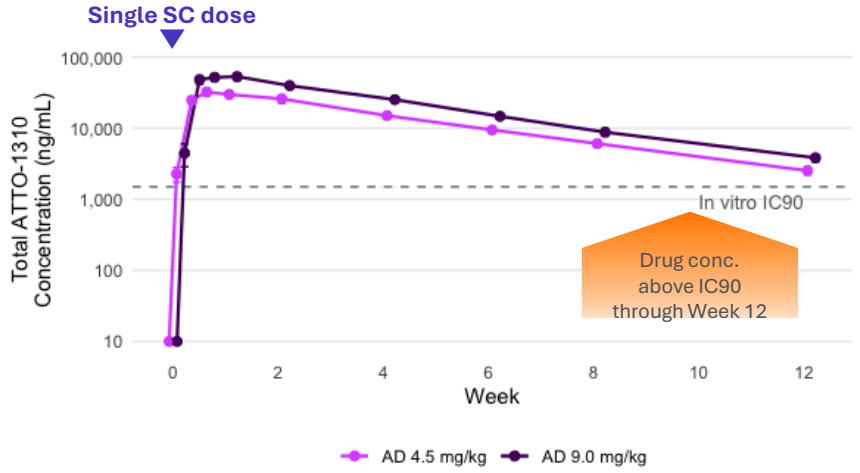
Pharmacology supports potential quarterly (Q3M) dosing in patients with chronic pruritus and high-itch AD after a single SC dose

Drug Exposure

Chronic pruritus

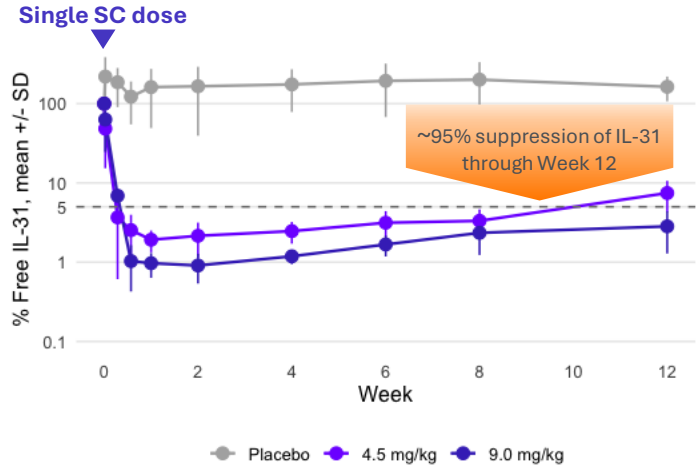


High-itch AD

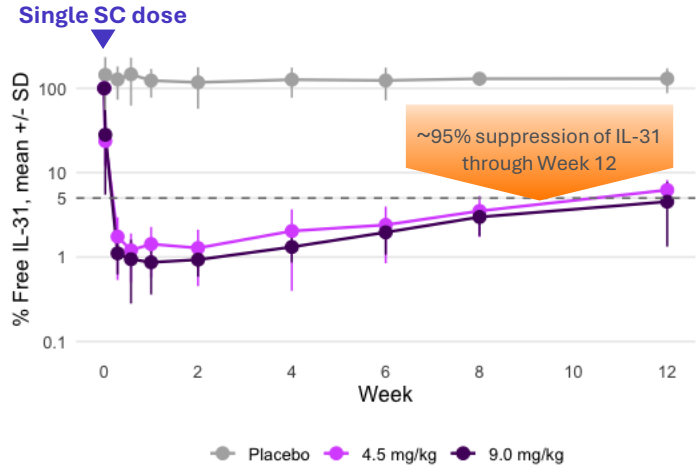


Target Engagement

Chronic pruritus



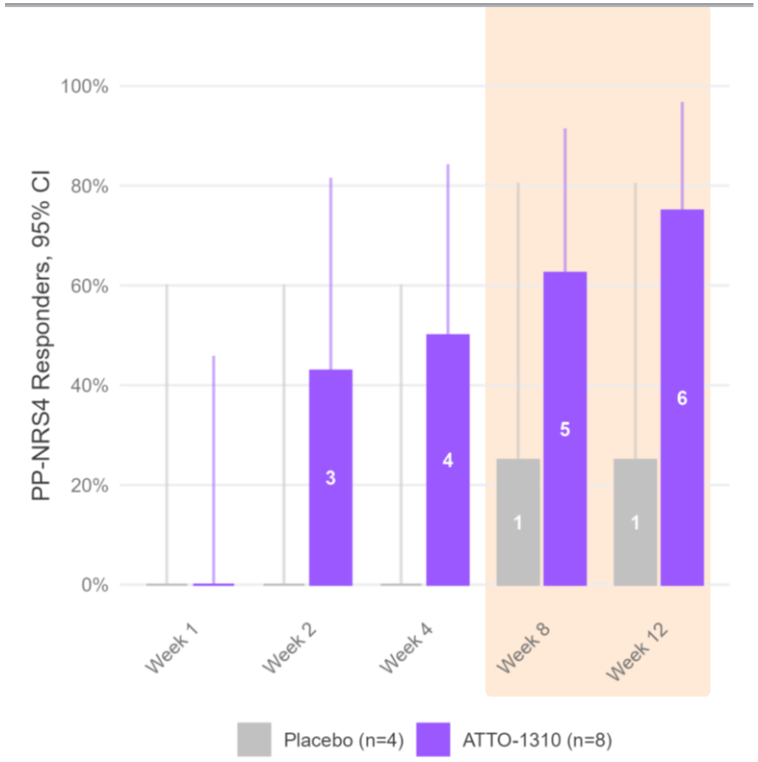
High-itch AD



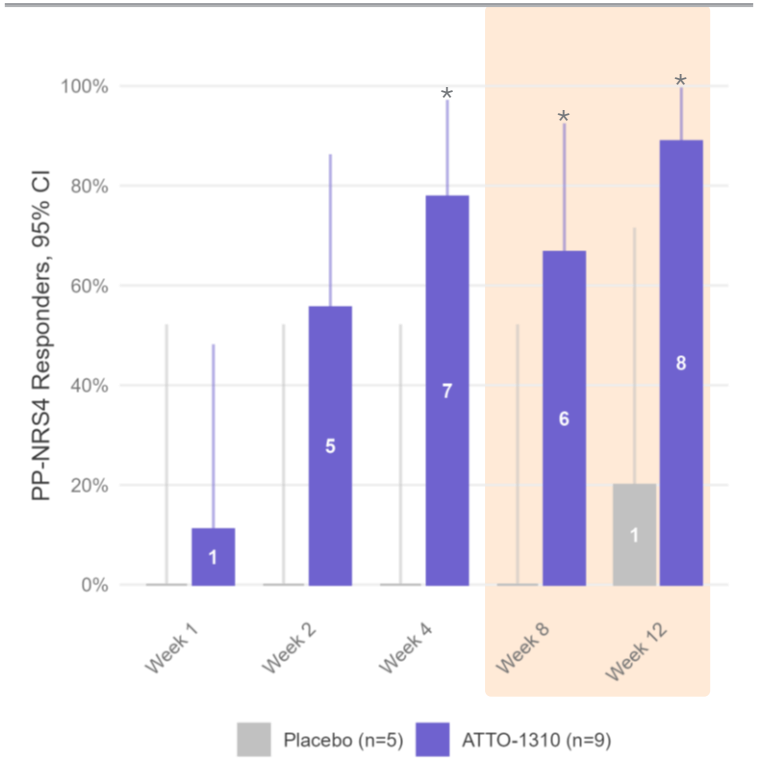
Rapid itch relief deepened through Week 12 in CP patients

PP-NRS 4: patients who experienced at least a 4-point improvement from PP-NRS baseline (considered clinically meaningful)

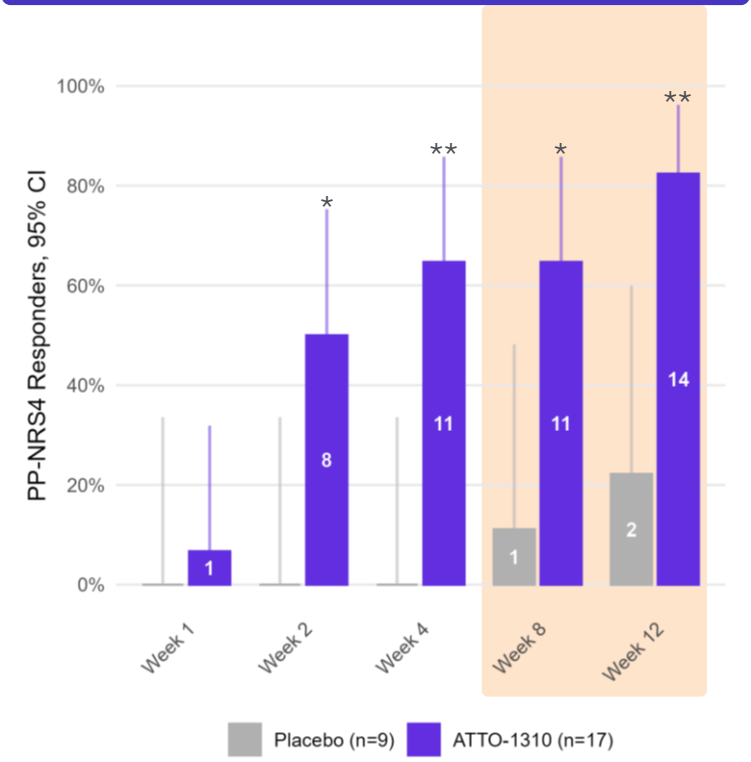
4.5 mg/kg Cohort



9.0 mg/kg Cohort



Pooled PP-NRS 4 Responders



New data

~60% Placebo-adjusted PP-NRS 4 responders at Week 12 with **1 injection** of ATTO-1310

vs.

~21% Placebo-adjusted WI-NRS 4 responders at Week 12 with **7 injections** of dupilumab[1]

* p<0.05; ** p<0.01

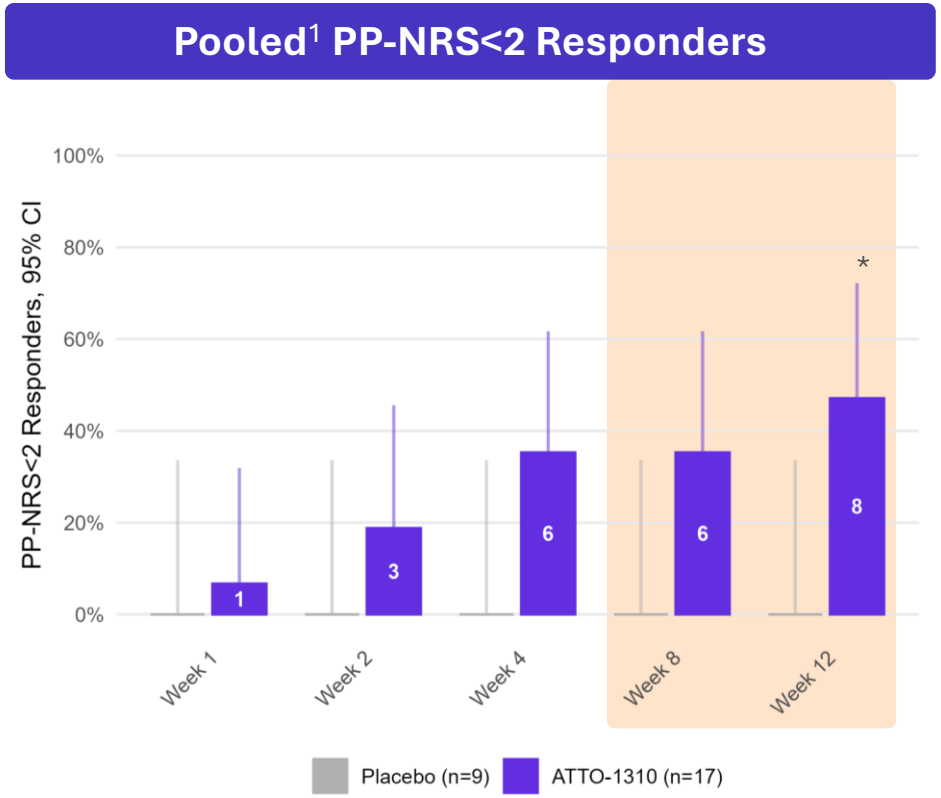
Last observation carried forward was applied for missing data. Missing weekly average PP-NRS scores were imputed with the last non-missing, post-baseline observed value

Cross-trial comparisons are inherently unreliable, as they are not based on data resulting from a head-to-head trial and are not direct comparisons.

1. Dupilumab data presented at EADV 2025; NCT05263206

Nearly half of CP patients achieved itch-free or nearly-itch-free status at Week 12 after one dose of ATTO-1310

PP-NRS<2: percentage of patients whose worst itch score is less than 2, meaning they were itch-free or nearly itch-free



New data

Deep and increasing itch relief following a single SC dose

~47% vs. 0%

Nearly half the patients achieved minimal itch at Week 12

~47% of ATTO-1310-treated patients achieved PP-NRS<2 vs. 0% on placebo

Week 12 data reinforces confidence in potential depth and durability of ATTO-1310 in treating CPUO

* p<0.05

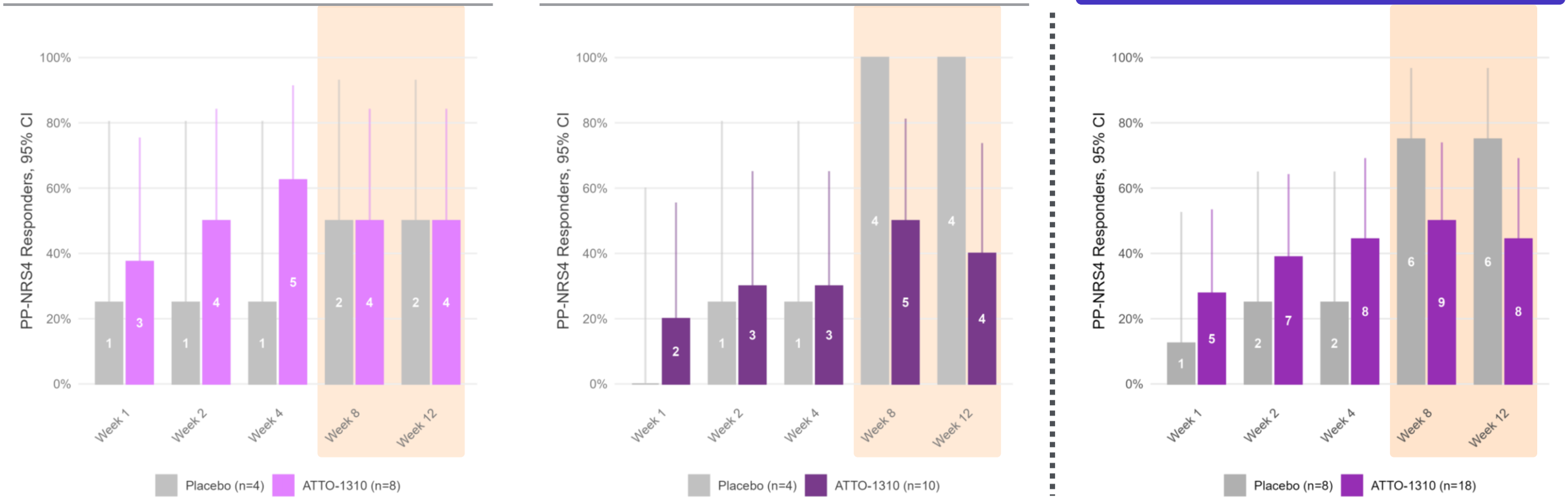
1. Pooled 4.5 mg/kg and 9.0 mg/kg data

Last observation carried forward was applied for missing data. Missing weekly average PP-NRS scores were imputed with the last non-missing, post-baseline observed value

Early itch response sustained through Week 12 in high-itch AD patients

PP-NRS4: patients who experienced at least a 4-point improvement from PP-NRS baseline (considered clinically meaningful)

4.5 mg/kg Cohort + 9.0 mg/kg Cohort → Pooled PP-NRS4 Responders



New data

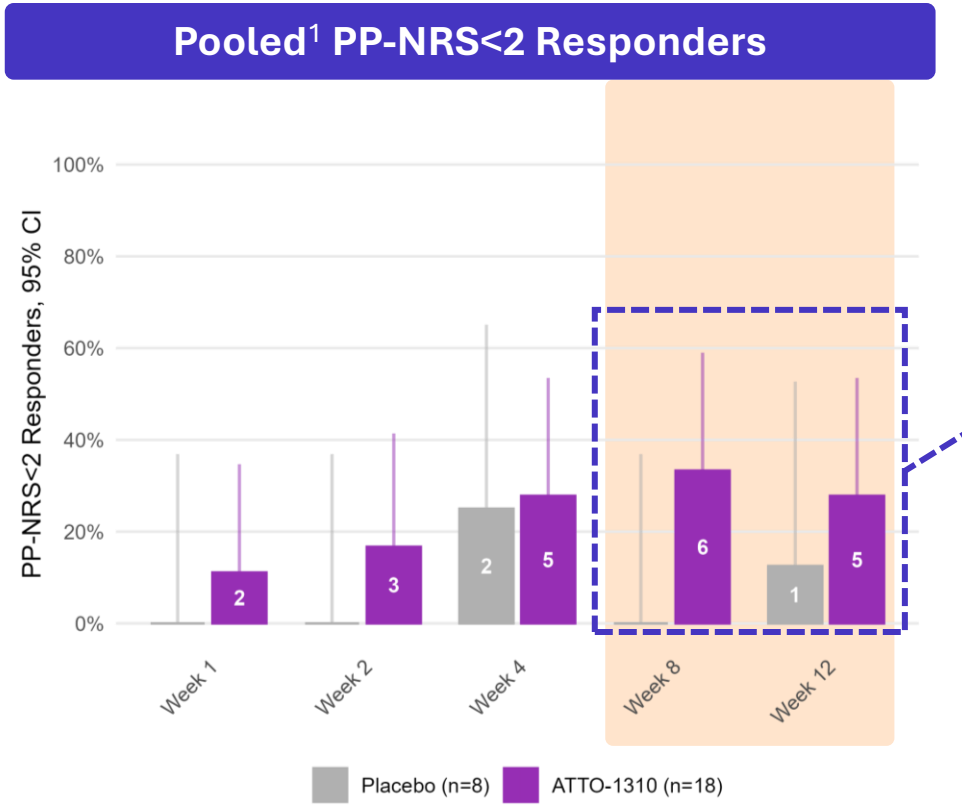
Placebo Observations

- 3 of 8 placebo participants (~38%) used rescue after Week 4 vs. 0 of 18 (0%) of the active participants
- 3 of 6 total placebo responders came from a single study site

Rescue medications include anti-histamines and/or topical corticosteroids (TCS)
Last observation carried forward was applied for missing data. Missing weekly average PP-NRS scores were imputed with the last non-missing, post-baseline observed value

Deep itch relief sustained through Week 12 in patients with high-itch AD after a single SC ATTO-1310 dose

PP-NRS<2: percentage of patients whose worst itch score is less than 2, meaning they were itch-free or nearly itch-free



Placebo effect is minimized upon using the more stringent endpoint of PP-NRS<2

Data supports strong and durable anti-itch activity of ATTO-1310 in high-itch AD patients

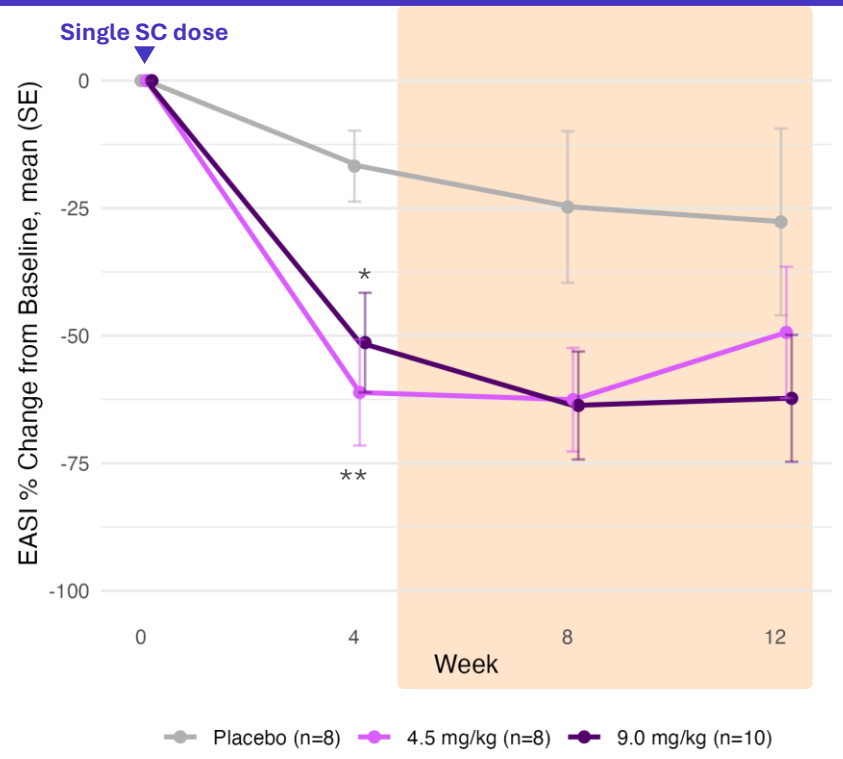
New data

1. Pooled 4.5 mg/kg and 9.0 mg/kg data
Last observation carried forward was applied for missing data. Missing weekly average PP-NRS scores were imputed with the last non-missing, post-baseline observed value

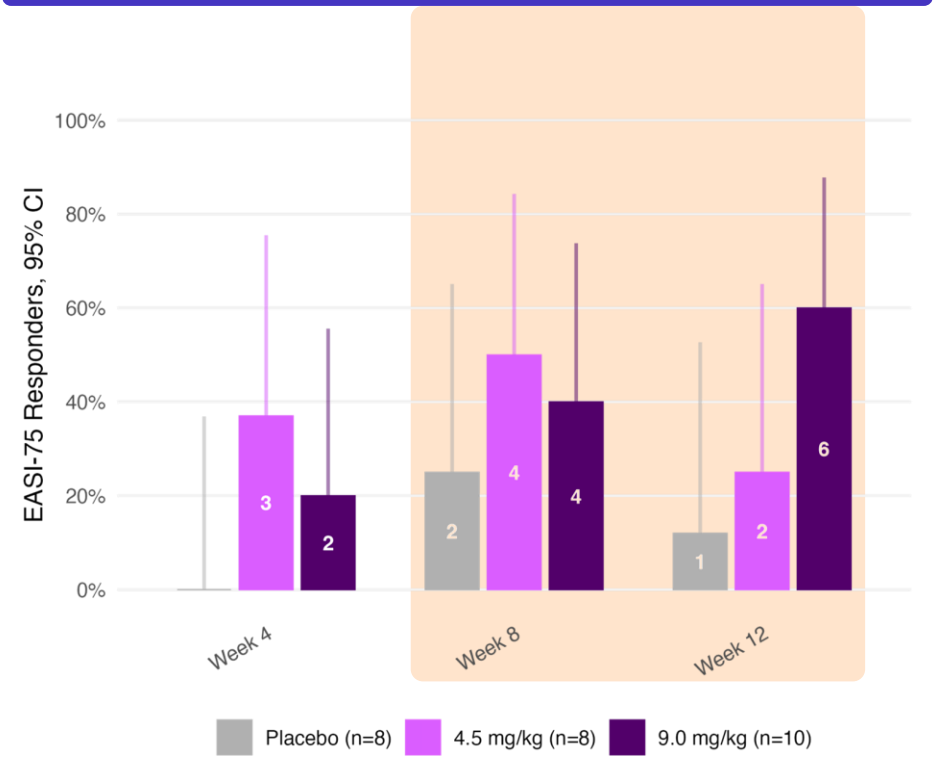
Rapid and substantial skin lesion improvement maintained through Week 12 after a single SC ATTO-1310 dose

Improvements in Eczema Severity (EASI % change from baseline) and the percentage of patients achieving at least 75% skin symptom improvement after a single injection (EASI-75 responders)

EASI % Change from Baseline



EASI-75 Response

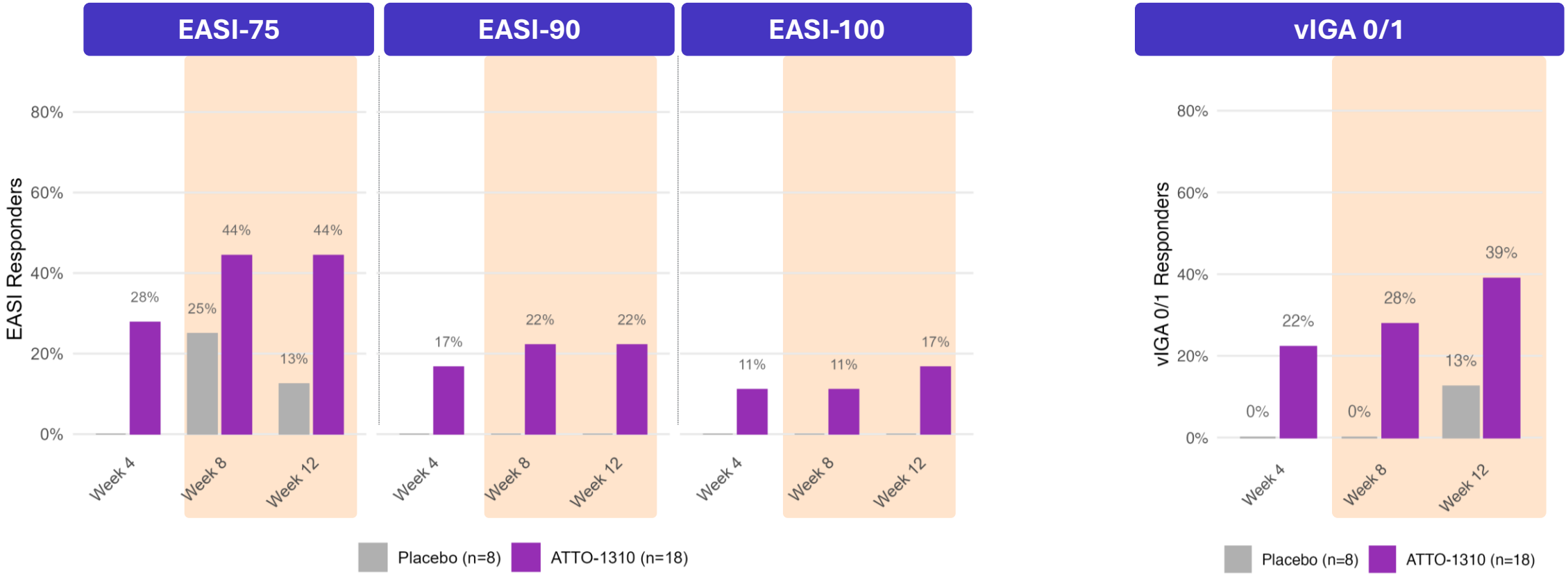


New data

* p<0.05
** p<0.01
Nominal p-values for EASI %CFB at Week 8 were 0.057 (4.5 mg/kg) and 0.052 (9.0 mg/kg)

Rapid skin lesion improvement sustained and deepened through Week 12 after a single SC ATTO-1310 dose

Percentage of patients achieving at least 75%/90%/100% skin symptom improvement and clear or almost-clear skin (vIGA 0/1)



New data

Robust skin lesion improvement with **low placebo effect** observed through Week 12 with **a single SC dose** of ATTO-1310

1. Pooled 4.5 mg/kg and 9.0 mg/kg data
vIGA response defined as a rating of 0 (clear skin) or 1 (almost clear skin) plus at least a 2-grade improvement

ATTO-1310 was well tolerated in chronic pruritus and high-itch AD patients, consistent with its safety profile in HVs

	Chronic Pruritus		High-itch Atopic Dermatitis	
Participants with ≥1:	**Pooled Placebo (N=9)**	**Pooled ATTO-1310 (N=17)**	**Pooled Placebo (N=8)**	**Pooled ATTO-1310 (N=18)**
Treatment emergent adverse event (TEAE), n (%)	4 (44.4)	7 (41.2)	3 (37.5)	5 (27.8)
Grade ≥3 TEAE, n (%)	0	1 (5.9)[1]	0	0
TEAE related to study drug, n (%)	1 (11.1)[2]	0	2 (25.0)[2]	2 (11.1)[3]
Serious TEAE, n (%)	0	1 (5.9)[1]	0	0
TEAE leading to study discontinuation, n (%)	0	0	0	0
TEAE of special interest, n (%)	1 (11.1)[4]	0	1 (12.5)[4]	2 (11.1)[4]

0 None of the ATTO-1310-treated participants experienced dermatitis AEs

2 Two placebo participants experienced dermatitis AEs

1. Worsening of a pre-existing hiatal hernia, deemed 'not related' to study treatment
2. Related TEAEs on placebo included eosinophilia, injection site discoloration, pruritus, and injection site reaction
3. Related TEAEs on active included injection site edema, injection site bruising, injection site erythema, and injection site hemorrhage
4. TEAEs of special interest were all Grade 1 injection site reactions

Attovia™

ATTO-1310 showed low immunogenicity across HVs and patient cohorts

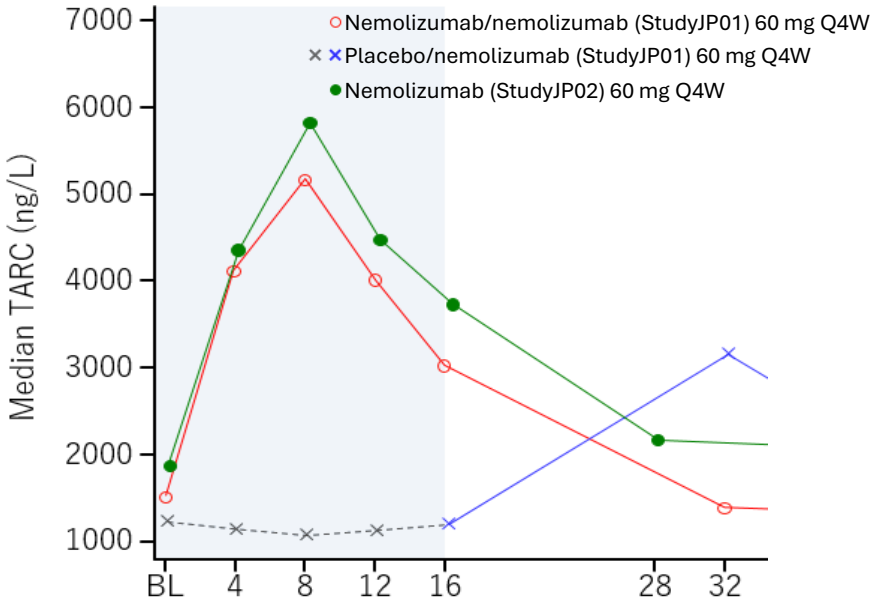
Population	Study Part	Treatment-induced ADA Rate[1]
HVs	Phase 1a (Parts 1-2)	2 of 42 (4.8%)
AD and CP patients	Phase 1b (Parts 3-4)	4 of 35 (11.4%)
All treated participants	**Entire Phase 1**	**6 of 77 (7.8%)**

ADA-positive samples showed no impact on PK, target engagement, tolerability, or clinical activity

1. Reported rates reflect positive treatment-induced ADAs captured at any sampled time point across entire Phase 1a/b study. One HV and one AD patient were unevaluable due to lack of post-baseline sample.

Targeting the IL-31 ligand vs. its receptor avoided the TARC increase seen with nemolizumab

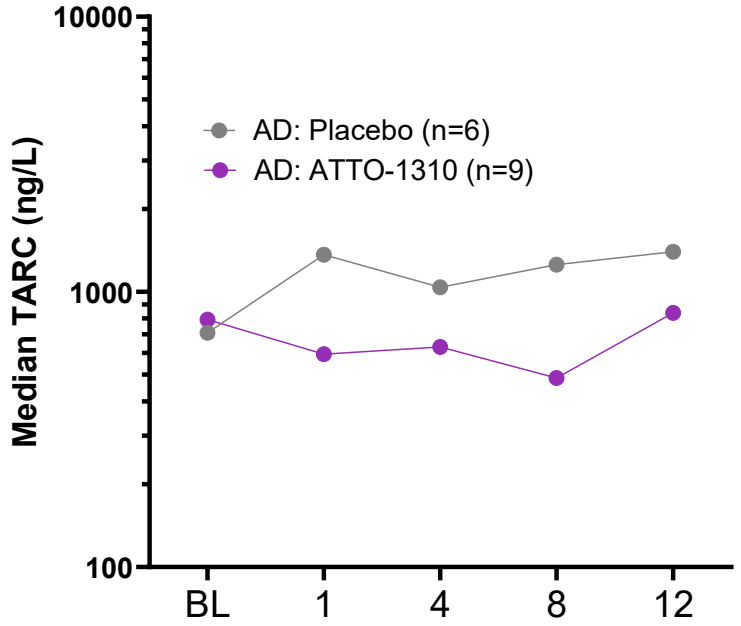
Nemolizumab (anti-IL-31Rα) TARC Data[1]



- Median TARC **rose ~3x** by Week 8
- **Significant increase** in TARC after placebo patients crossover to active

vs.

ATTO-1310 (anti-IL-31) TARC Data[2]



- Median TARC **stayed near baseline** through Week 12
- **~50% reduction** from baseline at Week 8

ATTO-1310 TARC measured with Inflammation Panel 250 by Alamar Biosciences

1. Data from patients with atopic dermatitis and moderate-to-severe pruritus across two Japanese Phase 3 studies

2. 4.5 mg/kg and 9 mg/kg treatments are grouped together for high-itch AD and chronic pruritus groups; dotted line represent the adult reference limit (<450 ng/L); Br J Dermatol. 2022 Apr;186(4):642-651

Source: Br J Dermatol. 2022 Apr;186(4):642-651

ATTO-1310 clinical development plan

COMPLETED STUDIES

- ✓ **Phase 1a:** HV SAD/MAD
- ✓ **Phase 1b:** High-itch AD
- ✓ **Phase 1b:** Chronic pruritus

100+ subjects studied in Phase 1

KEY VALUE DRIVERS

Phase 2: CPUO
Initiation expected in 1H 2027

Phase 2: High-itch AD
Initiation expected in 1H 2027

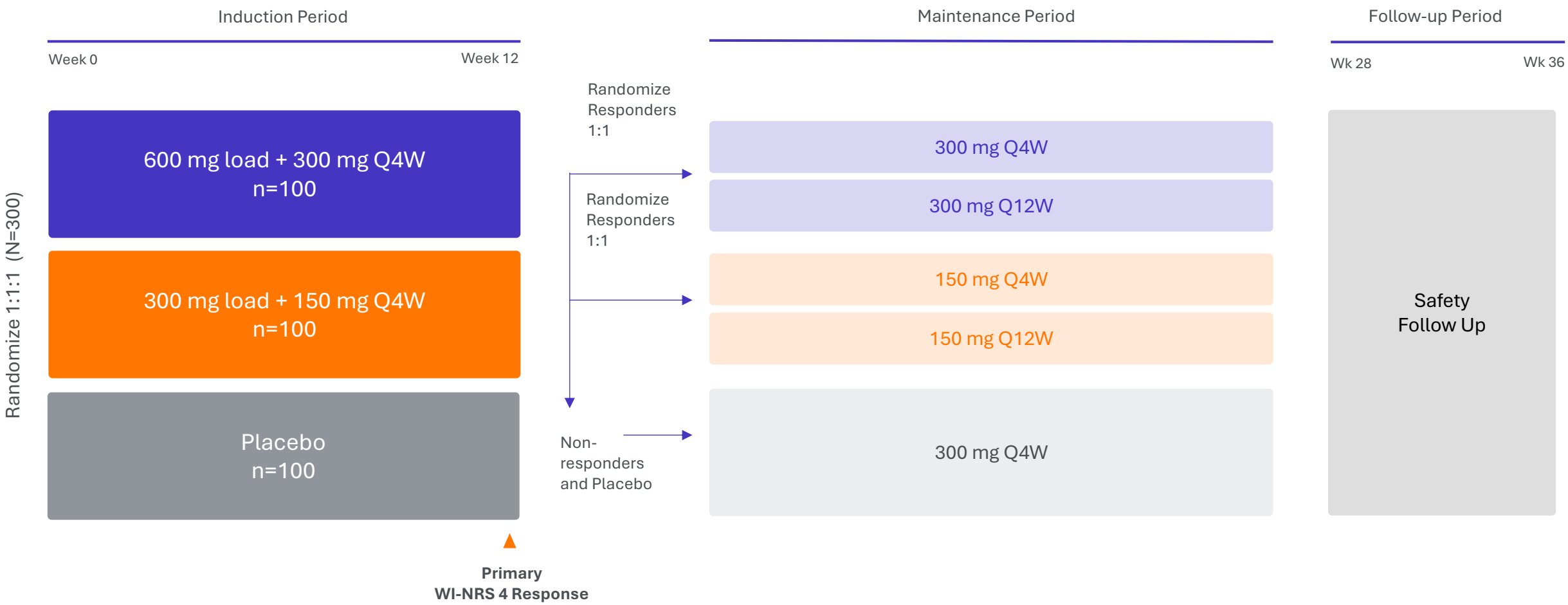
EXPLORATORY UPSIDE

Phase 1b: Cholestatic pruritus
Data expected in 2H 2027

CKD-aP and other pruritic conditions[1]
Future lifecycle management opportunities

CKD-aP: Chronic kidney disease-associated pruritus
1. Other pruritic conditions may include but are not limited to: broader hepatic itch, CSU, PN, etc.

Phase 2 ATTUNE-CPUO trial design



Key Eligibility

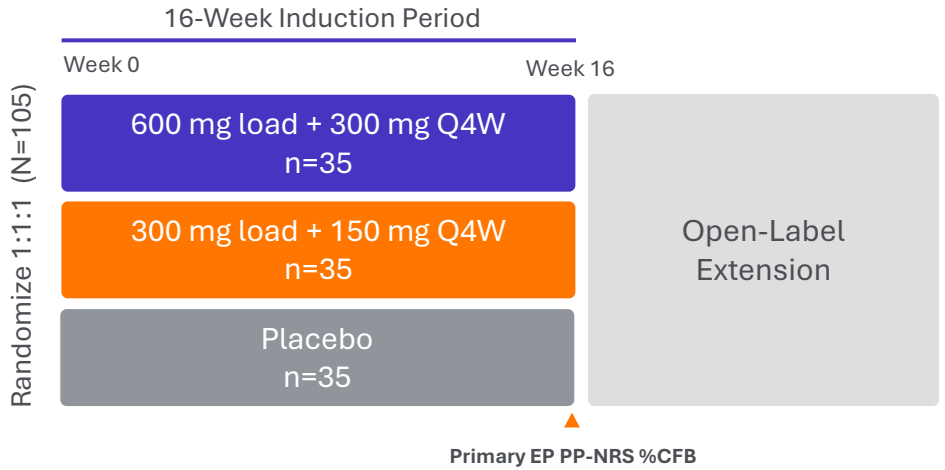
Adults, ages 18-90, baseline WI-NRS ≥7, chronic pruritus for ≥6 months affecting at least 2 body areas not secondary to dermatological, systemic, neuropathic, or psychogenic origin

Phase 2 ATTUNE-AD high-itch AD trial design

Part A:

Key eligibility criteria:

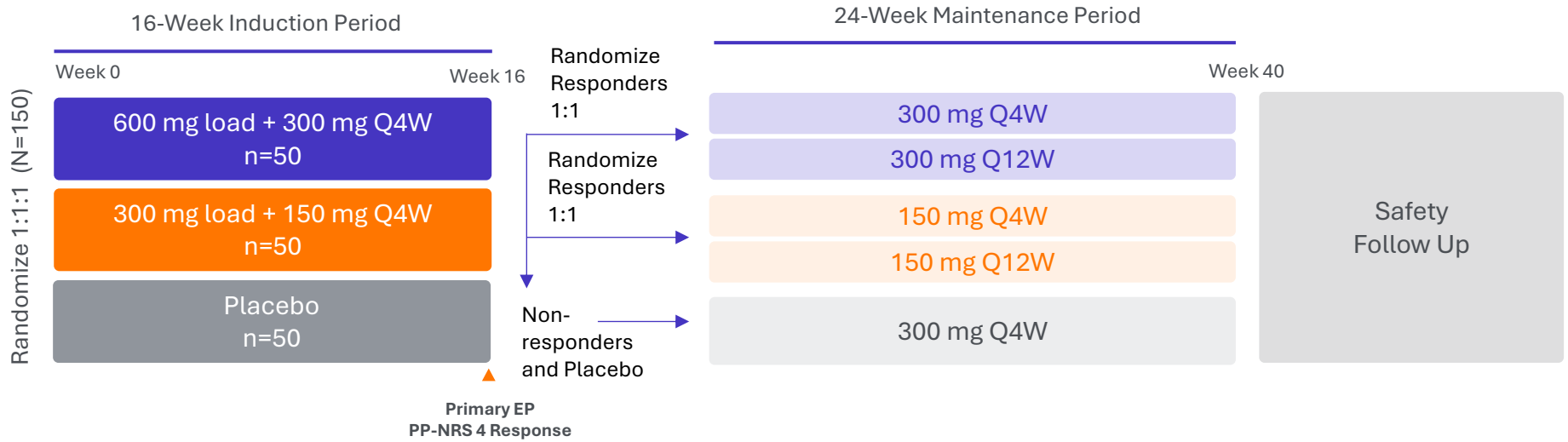
- PP-NRS ≥7
- EASI ≥12
- vIGA ≥3
- BSA ≥10%



Part B:

Key eligibility criteria:

- PP-NRS ≥7
- EASI ≥7
- vIGA ≥2[1]
- BSA ≥10%



1. vIGA=2 capped at 30%

Phase 1b exceeded our expectations; two large Phase 2 studies are next

EFFICACY

Deep itch reduction
- ~60% placebo-adjusted PP-NRS 4 vs. ~21% dupilumab at Week 12 in CPUO

Robust skin lesion efficacy in high-itch AD at Week 12
- ~32%[1] EASI-75
- ~27%[1] vIGA 0/1

DURABILITY

Efficacy sustained, and, by some measures, **deepened**, through Week 12 for both itch and lesions with a single SC dose

DOSING

Full target engagement and drug exposure data support a **Q3M dosing regimen**

SAFETY & IMMUNOGENICITY

Favorable safety profile; no dermatitis AEs; low immunogenicity through full follow-up

Reinforces our confidence in a differentiated profile vs. nemolizumab

- **Rapid, deep, and durable** anti-itch and skin lesion improvements
- Convenient **Q3M dosing**
- Potentially **differentiated safety profile** (e.g., lower dermatitis AEs)

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1. Placebo-adjusted values

02

ATTO-2306: Novel biotherapeutic for inflammatory skin diseases

The ideal profile of improved efficacy AND dosing vs. SOC with favorable tolerability remains elusive among existing pipeline AD biologics

STANDARD OF CARE TODAY

dupilumab / lebrikizumab · dosed Q2W-Q4W · partial response in many patients · well tolerated

THE FUTURE STANDARD OF CARE

01 SUPERIOR EFFICACY

Deeper lesion and itch reduction vs. SOC

UNMET NEED

Patients keep cycling through therapies in search of complete relief

+

02 CONVENIENT DOSING

Q12W + maintenance dosing

UNMET NEED

Adherence falls as treatment burden rises

+

03 COMPARABLE SAFETY

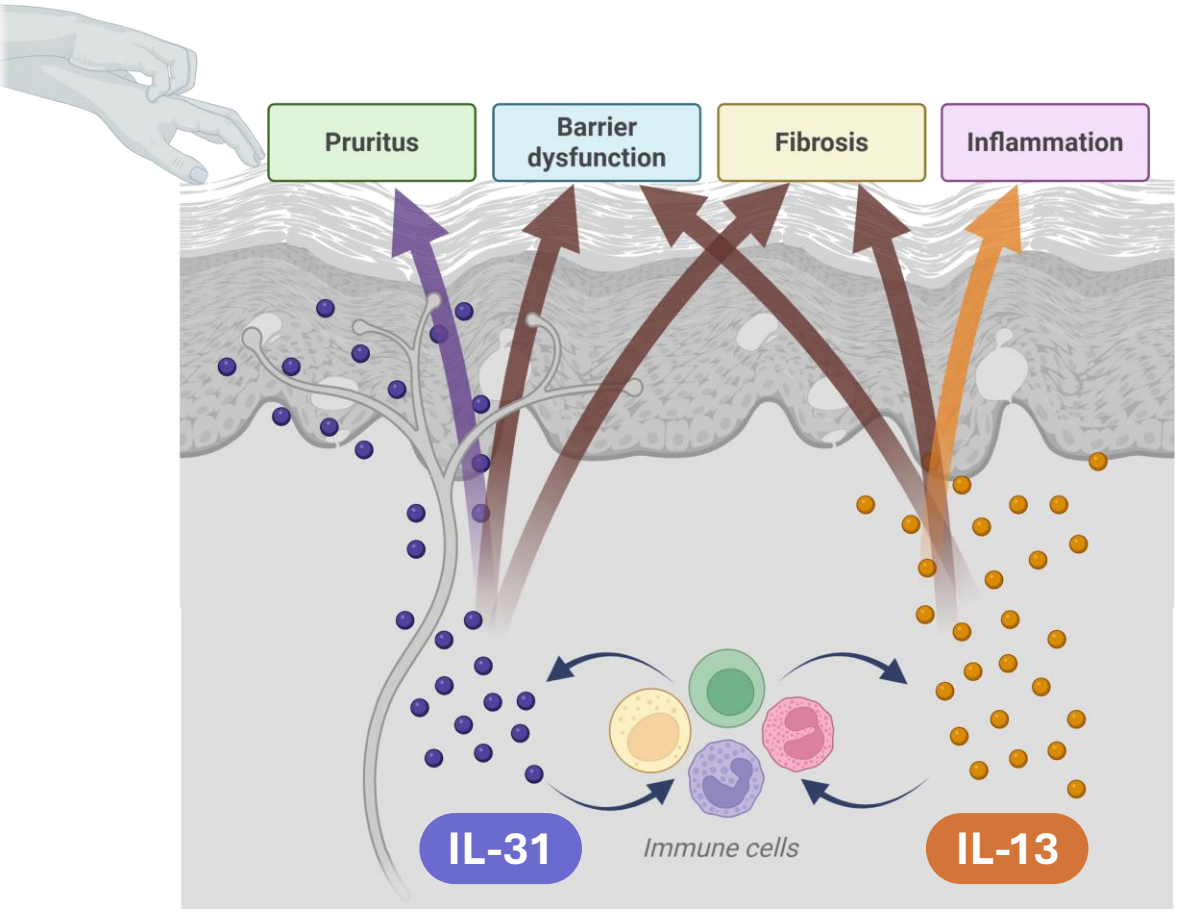
Tolerability that matches SOC

UNMET NEED

Tolerability is what makes long-term use possible

ATTO-2306 is uniquely positioned to deliver this ideal profile

ATTO-2306 (anti-IL-31 x IL-13 bispecific) has the potential to achieve improved lesion and itch reduction with convenient dosing



ATTO-2306 Target Product Profile

Deeper lesion/itch reduction vs. SOC[1]

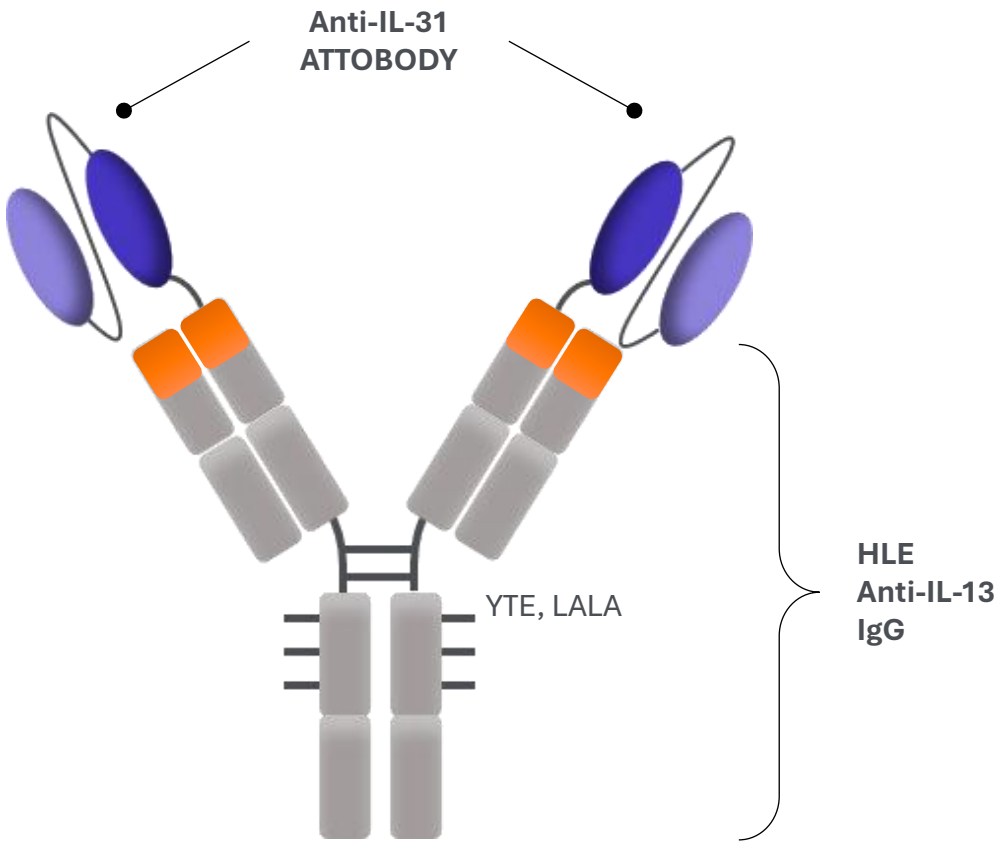
- Inhibits distinct complementary pathways
- Highly potent anti-IL-13 and anti-IL-31
- IL-31 ligand targeting
  - Avoid reverse dose-efficacy seen for IL-31Rα (nemolizumab)
  - Faster and deeper itch relief

Extended SC dosing Q3M or longer

- IL-13 to avoid TMDD (vs. IL-4Rα)
- Half-life extension based on IgG YTE mutations

1. SOC: dupilumab/lebrikizumab

ATTO-2306 offers attractive preclinical properties and efficient path to first-in-human



Molecule Attributes

High affinity

High potency against IL-31 and IL-13, retained in bispecific

Long NHP terminal half-life: ~22 days

Feasibility for high-concentration SC formulation

Low immunogenicity risk in *ex vivo* studies

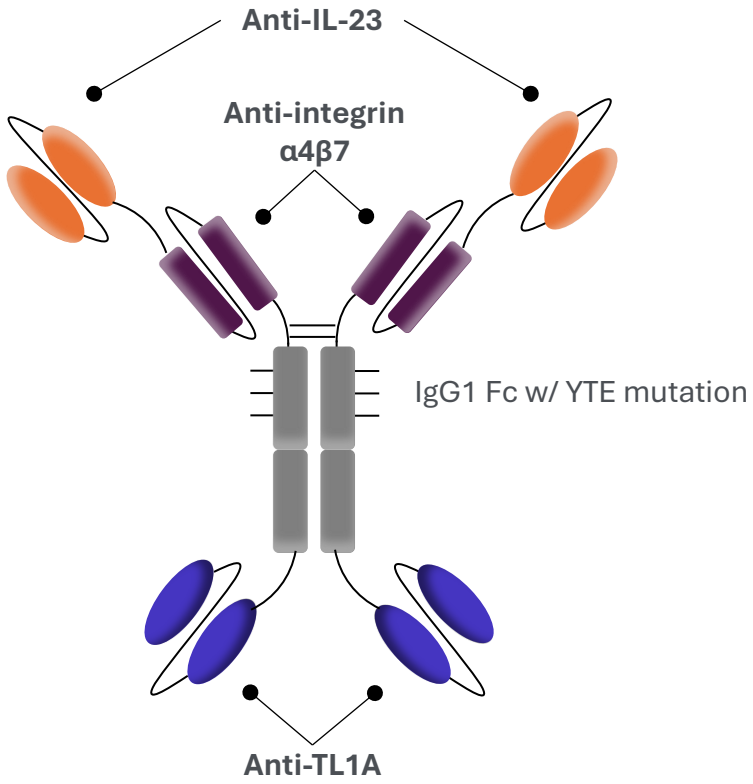
Expected Ph1 trial initiation in 1H 2027

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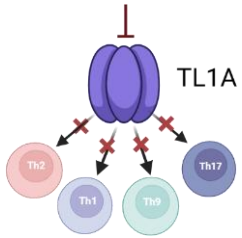
03

ATTO-1091: Next-generation trispecific for IBD

ATTO-1091 is a next-generation trispecific therapeutic for IBD with the potential to inhibit three clinically validated pathways



Expected Ph1 trial initiation in 1H 2027



TL1A

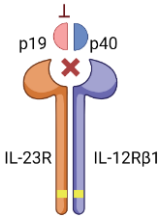
Higher potency than benchmarks[1]

Binds soluble and membrane TL1A

Spares decoy receptor binding

Blocks monomer and trimer

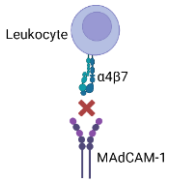
Avoids high molecular weight aggregates



IL-23

Potency on par with risankizumab[1]

Selective for p19



Integrin α4β7

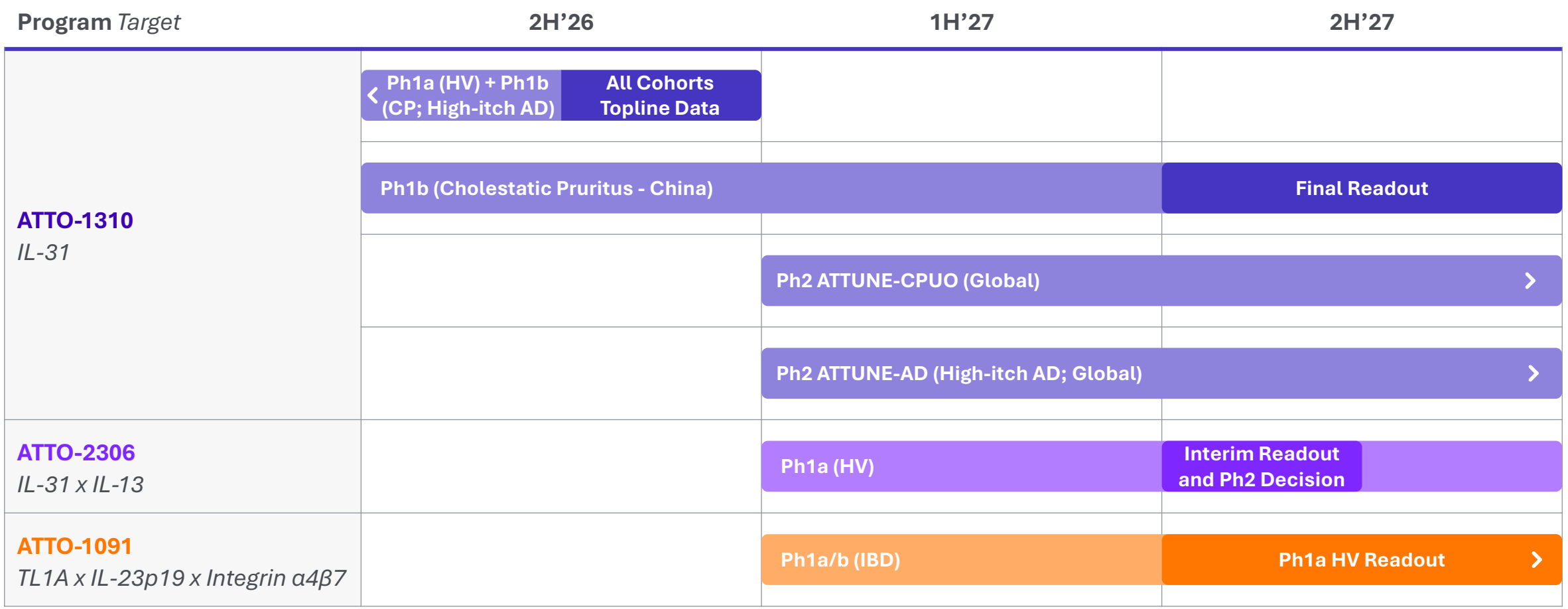
Comparable activity and potency to vedolizumab[1]

1. Comparison is based on head-to-head *in vitro* potency data

04

Anticipated milestones

Anticipated milestones



$395.9 million in cash, cash equivalents, and marketable securities as of September 30, 2026; expected to fund operations into 2030

1. Cash and investments refer to cash, cash equivalents, and marketable securities (unaudited).

Leadership team with board-level, transactional, and biopharma execution expertise



Tao Fu, MBA
Chief Executive Officer

Select Prior Experience

Johnson&Johnson · PORTOLA · zai Lab · Bristol Myers Squibb



Petter Veiby
Chief Scientific Officer

Select Prior Experience

MILLENNIUM PHARMACEUTICALS, INC · Takeda



Zaneta Odrowaz, Ph.D.
Chief Business Officer

Select Prior Experience

FRAZIER LIFE SCIENCES · AMUNIX a sanofi company



Hubert Chen, M.D.
Chief Medical Officer

Select Prior Experience

Genentech · Krystal · UCSF



Steven Chan
Chief Financial Officer

Select Prior Experience

ARCUS BIOSCIENCES · connect BIOPHARMA · MYOKARDIA



Hangjun Zhan, Ph.D.
Chief Technology Officer

Select Prior Experience

KindredBio · EXELIXIS

Board of Directors

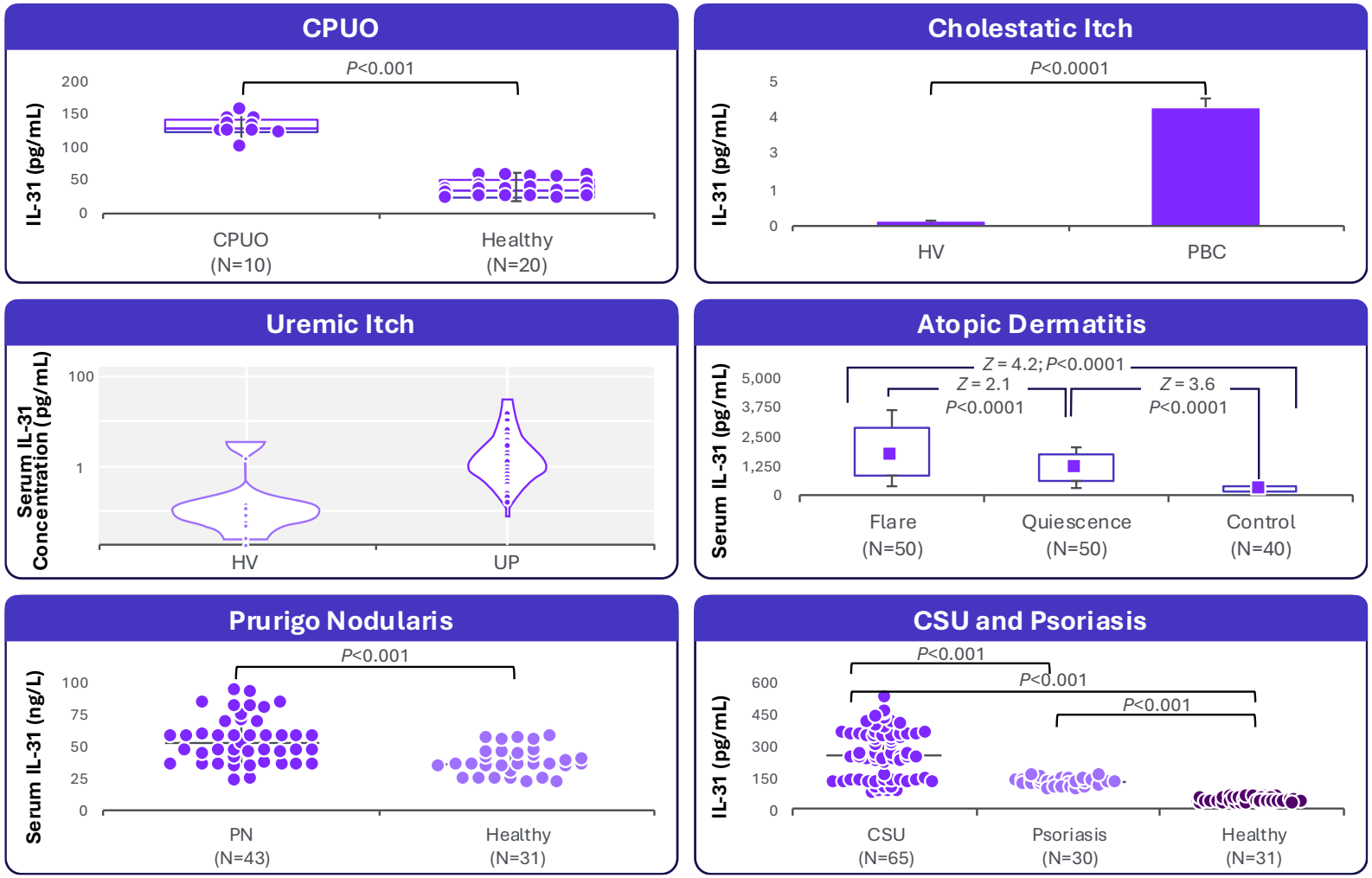
Jamie Topper, M.D., Ph.D. Chairman; Managing Partner, Frazier Life Sciences
Tao Fu, MBA Founder & CEO, Attovia Therapeutics
Mitchell Gold, M.D. Venture Partner, Frazier Life Sciences
Aaron Royston, M.D., MBA Managing Partner, venBio Partners
John W. Smither CFO, MBX Biosciences
Colin Walsh, Ph.D. Managing Director, Goldman Sachs AM
Angie You, Ph.D. CEO, Architect Therapeutics

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Appendix

IL-31 is recognized as a central itch cytokine in a host of high-prevalence indications



Source: Biomark Insights. 2020 Jul 8:15:1177271920940712; Hepatology. 2024 Jul 1;80(1):27-37; Acta Derm Venereol. 2016 Nov 2;96(7):894-898; Heliyon. 2020 Dec 1;6(12):e05621; Ther Adv Chronic Dis. 2022 Jul 19:13:20406223221112561; Clin Exp Nephrol. 2021 Aug;25(8):875-884

ATTO-1310 Phase 1 healthy volunteer data demonstrated favorable tolerability and support advancement to Phase 2

	HV SAD							HV MAD			
N (%) of subjects with at least 1 event	ATTO-1310 **0.5mg/kg IV** n=6	ATTO-1310 **1.5mg/kg IV** n=6	ATTO-1310 **4.5mg/kg IV** n=6	ATTO-1310 **1.5mg/kg SC** n=6	ATTO-1310 **9.0mg/kg IV** n=6	ATTO-1310 **Pooled** n=30	Placebo **Pooled** n=10	ATTO-1310 **1.5mg/kg SC** n=6	ATTO-1310 **4.5mg/kg SC** n=6	ATTO-1310 **Pooled** n=12	Placebo **Pooled** n=4
TEAE	4 (66.7%)	4 (66.7%)	2 (33.3%)	1 (16.7%)	0	11 (36.7%)	5 (50.0%)	4 (66.7%)	4 (66.7%)	8 (66.7%)	2 (50.0%)
Serious TEAE	0	0	0	0	0	0	0	0	0	0	0
Treatment-related TEAE	0	1 (16.7%)	1 (16.7%)	0	0	2 (6.7%)	3 (30.0%)	2 (33.3%)	4 (66.7%)	6 (50.0%)	0
Grade ≥3 TEAE	0	0	0	0	0	0	1 (10.0%)[a]	0	0	0	0
TEAE leading to study discontinuation	0	0	0	0	0	0	0	0	1 (16.7%)[d]	1 (8.3%)	0
Injection site reaction	0	0	0	0	0	0	0	0	0	0	0
Infusion related reaction	0	1 (16.7%)[b]	0	0	0	1 (3.3%)	1 (10.0%)[c]	0	0	0	0
Hypersensitivity reaction	0	0	0	0	0	0	0	0	0	0	0

PK/PD CHARACTERISTICS

Linear profile, approximately dose proportional. Rapid and sustained suppression of IL-31

LOW IMMUNOGENICITY

2 of 42 positive for treatment-induced ADA

No evidence of neutralizing or PK-altering ADAs

a. Syncope, not treatment-related b. Flushing, nausea, headache, nasal congestion, abdominal discomfort, feeling cold (all Grade 1), possibly related c. Allergic reaction to excipient (Grade 1), possibly related d. Pyrexia, Grade 1

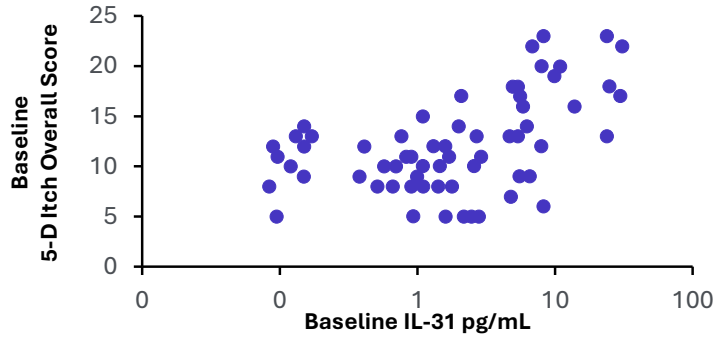
Baseline Characteristics

	Chronic Pruritus			High-itch Atopic Dermatitis		
	Placebo (n=9)	4.5 mg/kg (n=8)	9.0 mg/kg (n=9)	Placebo (n=8)	4.5 mg/kg (n=8)	9.0 mg/kg (n=10)
Mean age, years (SD)	59.0 (13.6)	64.1 (6.2)	60.7 (9.2)	39.5 (13.0)	43.9 (15.5)	39.1 (14.8)
Female, n (%)	7 (77.8)	4 (50.0)	4 (44.4)	1 (12.5)	2 (25.0)	6 (60.0)
Mean weight, kg (SD)	71.7 (13.9)	89.2 (18.0)	85.3 (20.6)	69.5 (10.8)	84.0 (18.5)	75.0 (18.5)
Mean PP-NRS (SD)	8.4 (1.0)	8.4 (1.0)	8.5 (0.8)	8.4 (0.8)	8.5 (1.0)	8.5 (0.9)
Mean EASI (SD)	-	-	-	29.6 (14.8)	14.9 (10.9)	15.3 (9.5)
vIGA-AD, n (%)						
3 - Moderate	-	-	-	4 (50.0)	7 (87.5)	10 (100.0)
4 - Severe				4 (50.0)	1 (12.5)	0 (0.0)

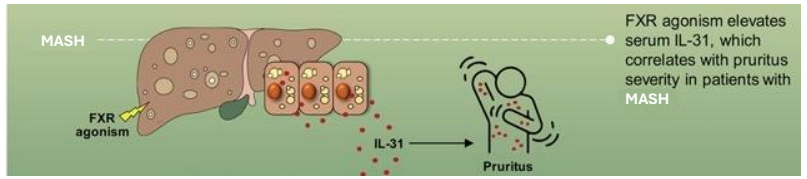
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Strong scientific rationale for IL-31 targeting in cholestatic pruritus to inform ATTO-1310 biomarker strategy

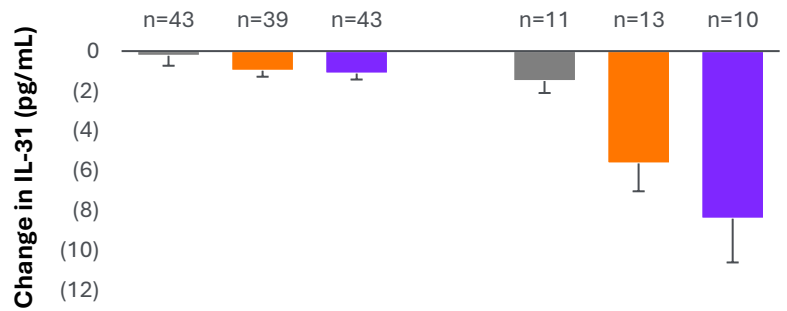
Elevated IL-31 correlates with pruritus severity in PBC/PSC



FXR agonism elevates serum IL-31, which **correlates with higher itch** in patients with MASH



PBC **responders to Seladelpar experience a reduction in IL-31 levels**, while non-responders do not



Attractive opportunity for ATTO-1310 with strong mechanistic rationale for targeting IL-31

Expands evidence pool for biomarker strategy

Potential gateway to broader hepatic itch

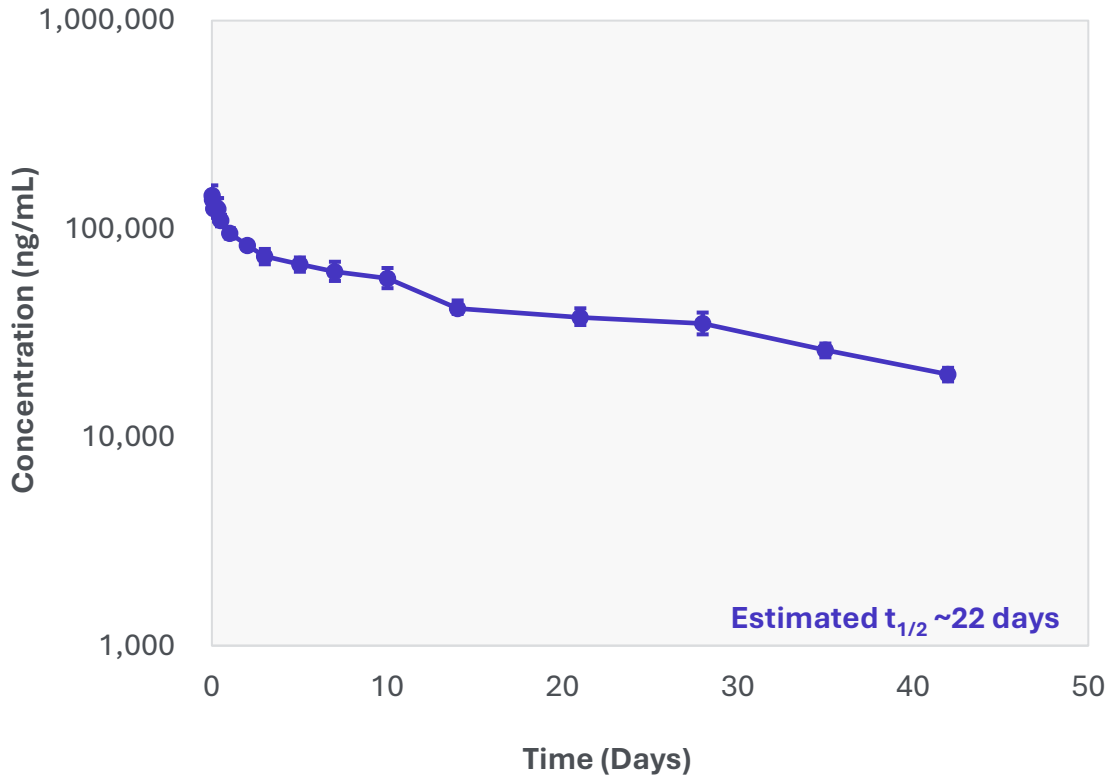
Phase 1b in cholestatic pruritus initiated in China

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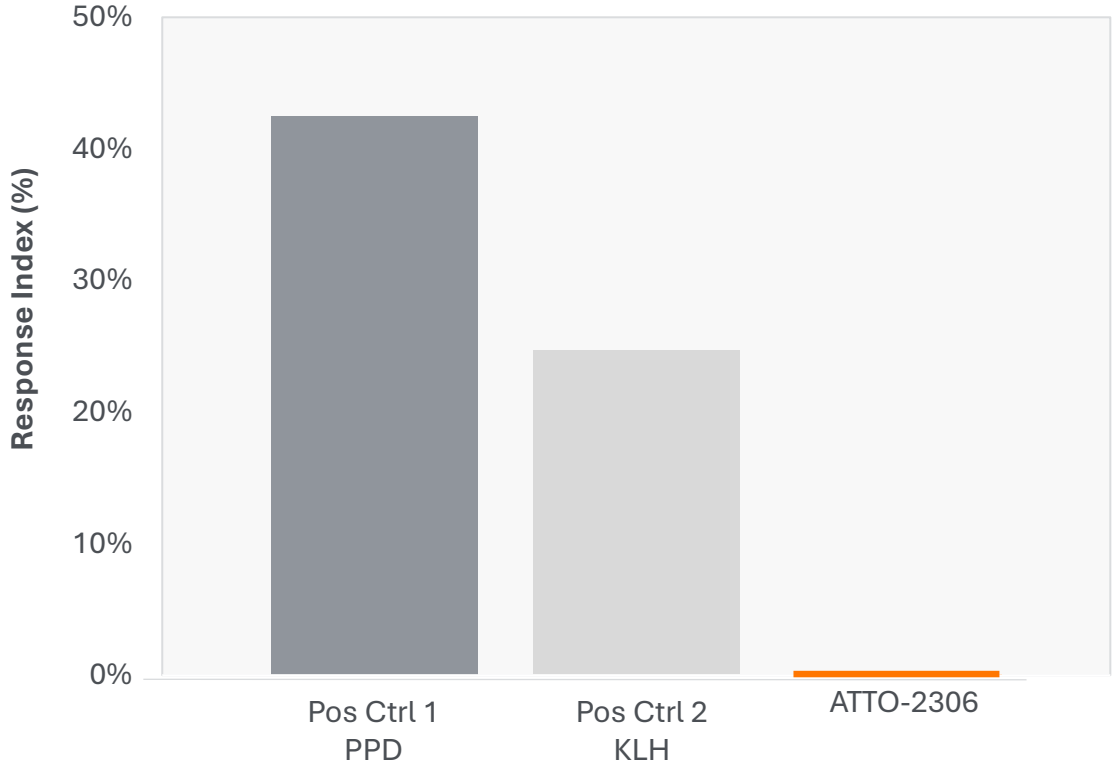
Hepatology. 2023 Jan 1;77(1):20-32; Hepatology. 2024 Jul 1;80(1):27-37

ATTO-2306 showed ~22-day NHP PK half-life and low immunogenicity risk

Single Dose IV NHP PK Half-Life[1]

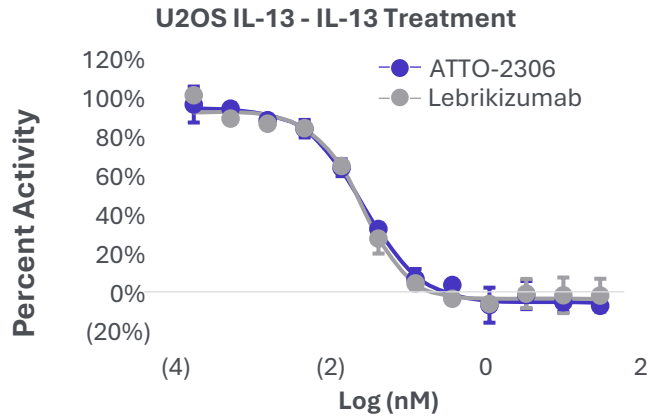
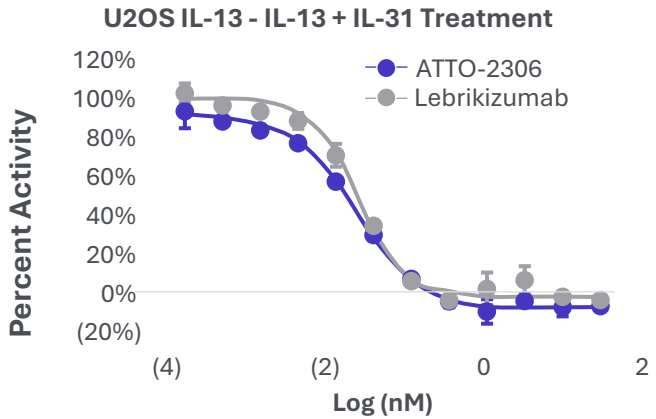


Ex Vivo Dendritic Cell – T Cell Assay[2]



1. PK Study: Single Dose (5 mg/kg, IV)
2. Immunogenicity Study: RI (Percentage Stimulation above Background ≥0.02%, SEM=2)

ATTO-2306 potently inhibited IL-13 and IL-31 in preclinical models

	Single Cytokine Loaded Bispecific	Fully Loaded Bispecific
IL-13 Cells		
IL-31 Cells	